

<p align="center"><b>5 LOADING AND RUNNING GELS</b></p>	<p align="center">Page 1 of 3</p>
<p align="center"><b>FORENSIC BIOLOGY SECTION TRAINING PROGRAM FOR FORENSIC LABORATORY SPECIALISTS</b></p>	<p align="center">Issue No.: 2</p>
	<p align="center">Effective Date: 6-March-2006</p>
<p><b>5 LOADING AND RUNNING GELS</b></p> <p>The FLS III may be trained to load and run one or more of the different types of gels (i.e., yield, product or vertical typing gel) used during the DNA analysis process. As the FLS III successfully demonstrates an unquestionably sound technique for loading and running each type of gel, the corresponding checklist will be completed by the Training Coordinator (i.e., the qualified examiner that conducts that specific part of the training).</p> <p><b>5.1 GOALS</b></p> <p>5.1.1 To develop an understanding and working knowledge of the use of submarine gels (for yield and product gels) and vertical gels used during the DNA analysis process, including the parameters used for electrophoresis of each type of gel and proper documentation.</p> <p>5.1.2 To become familiar with the use of controls on the yield, product, and typing gels.</p> <p>5.1.3 To develop an unquestionably sound technique for preventing sample contamination and sample mix up while loading gels.</p> <p><b>5.2 TASKS</b></p> <p>5.2.1 Read and become familiar with Chapters 3 (Yield Gels), 6 (Product Gels) and 7 (Vertical Gel Electrophoresis) of the <u>Commonwealth of Virginia Department of Forensic Science Forensic Biology Section Procedure Manual Section III Fluorescent Detection PCR-Based STR DNA Protocol PowerPlex® 16 BIO System Procedure Manual</u>.</p> <p>5.2.2 Observe the Training Coordinator load a yield, product, and vertical typing gel. The Training Coordinator will determine the volume of amplified DNA to load into the vertical typing gel.</p> <p>5.2.3 Load and run a minimum of 5 yield, 5 product and 5 vertical typing gels consisting of at least 10 training samples per gel, plus appropriate controls, under the direct supervision of the Training Coordinator or another qualified examiner. The Training Coordinator or another examiner will determine the volume of amplified DNA that will be loaded into the vertical typing gel.</p> <p>5.2.4 Load and run 10 competency samples (assigned by the Training Coordinator) on a yield, product, and vertical typing gel. The Training Coordinator will determine the volume of amplified DNA that will be loaded into the vertical typing gel.</p> <p><b>5.3 TRAINING EVALUATION:</b></p> <p>5.3.1 The trainee should demonstrate an unquestionably sound technique for running consistently interpretable yield, product, and/or vertical typing gels using proper documentation. This will be monitored by review of the documentation in the training notebook and continual observation by the training coordinator.</p> <p>5.3.2 Completion of the checklist by the Training Coordinator. The original checklist signed and dated by the training coordinator will be forwarded by the supervisor to the Laboratory Director or their designee in accordance with the Department Quality Manual.</p>	

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<p>After the FLS III has been qualified to load and run samples on yield, product and/or vertical typing gels, the samples that the FLS III will be permitted to run on each type of gel are as follows:</p> <p>Yield Gels:                      All extracted DNA samples</p> <p>Product Gels:                      All amplified DNA samples</p> <p>Vertical Typing Gels:      Samples that have been previously typed by an examiner and need to be re-typed to clarify the original typing result (i.e., microvariants) or a sample that has not previously been typed but is the only unknown sample on the typing gel (i.e., other samples will be controls or previously typed samples).</p>	

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**CHECKLIST FOR LOADING AND RUNNING GELS**

Name of Trainee: \_\_\_\_\_

  

1.

FLS III has successfully run a minimum of 5 yield gels consisting of at least 10 samples per gels.

Date: \_\_\_\_\_

Training Coordinator: \_\_\_\_\_

Comments: \_\_\_\_\_
2.

FLS III has successfully run a minimum of 5 product gels consisting of at least 10 samples per gel for samples amplified using the PowerPlex® 16 BIO System.

Date: \_\_\_\_\_

Training Coordinator: \_\_\_\_\_

Comments: \_\_\_\_\_
3.

FLS III has successfully run a minimum of 5 vertical typing gels consisting of at least 10 samples per gel for samples amplified using the PowerPlex® 16 BIO System.

Date: \_\_\_\_\_

Training Coordinator: \_\_\_\_\_

Comments: \_\_\_\_\_
4.

FLS III has successfully loaded and run 10 competency samples on one or more of the different types of gels specified below.

Yield Gel	Date: _____	Training Coordinator: _____
Product Gel	Date: _____	Training Coordinator: _____
Vertical Typing Gel	Date: _____	Training Coordinator: _____

Comments: \_\_\_\_\_
5.

FLS III has developed an unquestionably sound technique for preventing sample contamination and sample mix up while loading gels.

Date: \_\_\_\_\_

Training Coordinator: \_\_\_\_\_

Comments: \_\_\_\_\_

Qualified By: \_\_\_\_\_  

Training Coordinator

Date: \_\_\_\_\_

◆END